Understanding Bond Pricing
By better understanding bonds, you can more confidently use them to strengthen your portfolio.
Develop an Ongoing Strategy with Fidelity

Education on securities

Resources to help inform and assist you in managing your assets

Insights for helping you make more prudent and informed decisions
Common Questions

1. How many of you currently have bonds in your portfolio?

2. Ever wonder why it’s harder to get a bond quote than a stock quote?

3. How many of you have a grasp on what you’re being charged per bond trade?
Today's Agenda

Comprehending the Bond Market

Assessing Pricing for Individual Bonds

Understanding Trading Costs
Understanding the Bond Market

Makeup

Size

Volume
# The Makeup of the Bond Market Varies from the Stock Market

<table>
<thead>
<tr>
<th></th>
<th>STOCK MARKET</th>
<th>BOND MARKET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Makeup</strong></td>
<td>Equity shares of publicly owned companies</td>
<td>Debt securities issued by corporations, governments, government agencies, municipalities</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>Limited to size of shares offered by companies</td>
<td>Relatively small and large debt instruments</td>
</tr>
<tr>
<td><strong>Trading marketplace</strong></td>
<td>Centralized (Ex. NYSE or NASDAQ)</td>
<td>Fragmented, bonds are traded “over the counter.”</td>
</tr>
<tr>
<td><strong>Pricing transparency</strong></td>
<td>Generally transparent and liquid</td>
<td>Larger issuance = more transparent/liquid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smaller issuance = opaque pricing/less liquid</td>
</tr>
</tbody>
</table>
In general, the bond market is volatile, bond prices rise when interest rates fall and vice versa. This effect is usually pronounced for long-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

### CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>BOND</th>
<th>STOCK</th>
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<tbody>
<tr>
<td>Market Size&lt;sup&gt;1&lt;/sup&gt;</td>
<td>$44 Trillion</td>
<td>$46 Trillion</td>
</tr>
<tr>
<td>Daily Trading Volumes&lt;sup&gt;2&lt;/sup&gt;</td>
<td>$848 Billion</td>
<td>$322 Billion</td>
</tr>
<tr>
<td>Number of Securities&lt;sup&gt;3&lt;/sup&gt;</td>
<td>1,197,000</td>
<td>5,284</td>
</tr>
<tr>
<td>Ford (example) Outstanding&lt;sup&gt;4&lt;/sup&gt;</td>
<td>$81 Billion</td>
<td>$37 Billion</td>
</tr>
<tr>
<td>Ford (example) Number of Issues&lt;sup&gt;4&lt;/sup&gt;</td>
<td>405</td>
<td>1</td>
</tr>
</tbody>
</table>

Volume: US Bond Markets

DAILY TRADING VOLUME ($BN) AND CUSIPS OUTSTANDING

- Treasuries: Daily Trading Volume ($BN) = $594, # of Cusips = 1K
- MBS: Daily Trading Volume ($BN) = $252, # of Cusips = 43K
- Corporate: Daily Trading Volume ($BN) = $34, # of Cusips = 147K
- Municipal: Daily Trading Volume ($BN) = $12
- Agency: Daily Trading Volume ($BN) = $4, # of Cusips = 11K

Source: FINRA, SIFMA, Dec 2019
The bond market can be difficult to navigate because of its fragmented nature, its size, and its inconsistent trading.
Assessing Pricing for Individual Bonds

- Valuation Pricing
- Historical Pricing
- Live Pricing
Valuation Pricing: Monthly Statement
Bond Pricing Valuation

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Corporate Bonds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>WELLS FARGO CO NEW NOTE</td>
<td>01/24/23</td>
<td>1.031.00</td>
<td>1.000.000</td>
<td>103.6210</td>
<td>1.036.21</td>
<td>13.38</td>
<td>1.003.87</td>
<td>32.34</td>
<td>30.70</td>
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<tr>
<td>FIXED COUPON MOODY'S A2</td>
<td>S&amp;P A- SEMIANNUALLY NEXT CALL DATE 01/24/2022 CONT CALL 07/22/2022 CUSIP: 949748SK8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal Bonds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BABYLON N Y TAXABLE PUB IMPT BDS</td>
<td>09/01/24</td>
<td>$11.131.40</td>
<td>10,000.000</td>
<td>$111.7420</td>
<td>$11,174.20</td>
<td>$10,004.26</td>
<td>$1,169.94</td>
<td>$425.00</td>
<td>4.250%</td>
</tr>
<tr>
<td>FIXED COUPON MOODY'S Aaa</td>
<td>S&amp;P AA+ SEMIANNUALLY CUSIP: 05620PDJ9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total Corporate Bonds (7% of account holdings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Municipal Bonds (37% of account holdings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Valuation Pricing: Nightly Valuation

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Last Price (Change)</th>
<th>Today's Gain/Loss</th>
<th>Total Gain/Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCASH™ CASH</td>
<td>$1.00 (-$0.00)</td>
<td>$0.00</td>
<td>n/a</td>
</tr>
<tr>
<td>34540TDZ2</td>
<td>$96.119 (-$0.00)</td>
<td>0.06%</td>
<td>n/a</td>
</tr>
<tr>
<td>36290SYJ4</td>
<td>$114.818 (+$0.0013)</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>74348YV24</td>
<td>$83.038 (-$0.034)</td>
<td>$0.34</td>
<td>$109.62</td>
</tr>
<tr>
<td>902748AA0</td>
<td>$100.496 (-$0.009)</td>
<td>$0.18</td>
<td>$2.33</td>
</tr>
<tr>
<td>90348JYD3</td>
<td>$1.0084 (-$0.0003)</td>
<td>n/a</td>
<td>+$6.44</td>
</tr>
<tr>
<td>912810PZ5</td>
<td>$129.237 (+$0.2794)</td>
<td>n/a</td>
<td>+$47.17</td>
</tr>
<tr>
<td>912828YL8</td>
<td>$105.139 (+$0.1089)</td>
<td>n/a</td>
<td>+$62.74</td>
</tr>
</tbody>
</table>

For illustrative purposes only Source: Fidelity.com Screen-print taken on 12/22/2016
Valuation Pricing: Bond Details

**PROSPECT CAP CORP MTN**

**Basic Analytics**
- Price (Bid): N/A
- Price (Ask): N/A
- Depth of Book: N/A
- Ask Yield to Worst: N/A
- Ask Yield to Maturity: N/A
- Current Yield: N/A
- Yield to Sink: N/A
- Third Party Price: 83.208

**Complex Analytics**
- Duration to Worst: N/A
- Option Adjusted Duration: N/A
- Option Adjusted Spread: N/A
- Convexity to Worst: N/A
- Option Adjusted Convexity: N/A

**Redemptive Features**
- Call Protection: View Schedule NO
- Continuously Callable: YES
- Called Bonds: NO

**For illustrative purposes only Source: Fidelity.com Screen-print taken on 12/22/2016**
Valuation Pricing: Fixed Income Analytics

Summary Calculations

- Total Market Value: $1,094,137.24
- Total Par Value: $1,027,000.00
- Average Maturity: 6.71 years
- Average Estimated Yield: 2.41901%
- Annual Interest: $38,903.00
- Average Coupon Rate: 3.81899%
- Average Price: $106.53

Cash Distribution (Estimated Interest & Principal)

Duration (years)

- 0 - 6 years: 59.97%
- 7 - 13 years: 21.15%
- 14 - 19 years: 11.66%
- Unknown: 7.21%

Credit Rating

- Moody's
  - AAA: 26.84%
  - AA1: 2.43%
  - AA2: 4.65%
  - AA3: 0.20%
  - A1: 11.04%
  - A2: 3.97%
  - BAA1: 1.00%
  - BAA2: 1.36%
  - NR: 2.59%

For illustrative purposes only Source: Fidelity.com
Historical Pricing: Trading Liquidity

Best Offer: 116.686
No Bids

Trades often months apart
Pricing increased over time, in line with general Muni market
Live Pricing: Fidelity Bond Aggregation

~75K
Unique Bonds Offered

~120K
Total Offerings
Live Pricing: Live Listing of Bonds Available

For illustrative purposes only Source: Fidelity.com
### Live Pricing: Treasuries and Corporate Live Bid and Offer Prices

<table>
<thead>
<tr>
<th>Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Rating</th>
<th>Bid</th>
<th>Ask</th>
<th>Yield to Worst</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED STATES TREAS NTN NOTE 1.82500% 05/15/2026</td>
<td>1.625</td>
<td>05/15/2026</td>
<td>AAA</td>
<td>1.688</td>
<td>99.421</td>
<td>105.904(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S&amp;P</td>
<td>Price Qty(min)</td>
<td>Price Qty(min)</td>
<td>Yield to Worst</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,006(1)</td>
<td>1,006(1)</td>
<td>1.683</td>
</tr>
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</table>

**Bid Price: 99.421**
**Ask Price: 99.469**
**Yield Spread: 0.005%**

<table>
<thead>
<tr>
<th>Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Rating</th>
<th>Bid</th>
<th>Ask</th>
<th>Yield to Worst</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELLS FARGO CO MTN BE 4.10000% 06/03/2026 FR</td>
<td>4.100</td>
<td>06/03/2026</td>
<td>A3</td>
<td>3.308</td>
<td>105.904</td>
<td>105.999(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S&amp;P</td>
<td>Price Qty(min)</td>
<td>Price Qty(min)</td>
<td>Yield to Worst</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>75(10)</td>
<td>2(2)</td>
<td>3.387</td>
</tr>
</tbody>
</table>

**Bid Price: 105.904**
**Ask Price: 105.999**
**Yield Spread: 0.011%**

For illustrative purposes only Source: Fidelity.com
## Live Pricing: Municipal Bond Offerings

For illustrative purposes only Source: Fidelity.com

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Rating</th>
<th>Underlying Rating</th>
<th>Bid</th>
<th>Ask</th>
<th>Price Qty(min)</th>
<th>Price Qty(min)</th>
<th>Yld to Worst</th>
<th>Yld to Sink</th>
<th>Yld to Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL</td>
<td>KENDALL KANE &amp; WILL CNTY ILL CMNTY UNITS05.000000% 02/01/2027</td>
<td>6.000</td>
<td>02/01/2027</td>
<td>AA</td>
<td>NR</td>
<td>AA</td>
<td>NR</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>71.956 5(5)</td>
<td>71.956 5(5)</td>
<td>3.120</td>
<td>3.120</td>
<td></td>
</tr>
<tr>
<td>NJ</td>
<td>NEW JERSEY ST HIGHERED ASSISTANCE AUTH 05.100000% (30/12/2025) STUD LN STUD LN REV BDS STATE OF NEW</td>
<td>5.100</td>
<td>12/01/2026</td>
<td>AA</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>106.893 45(10)</td>
<td>106.893 45(10)</td>
<td>2.990</td>
<td>4.276</td>
<td></td>
</tr>
<tr>
<td>IL</td>
<td>COOK CNTY ILL CMNTY COLLEGE DIST NO 050 05.250000% 12/01/2025 Unif Univ Tax GO BDS CITY COLLEGE OF CHICAGO</td>
<td>5.250</td>
<td>12/01/2026</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>116.347 45(5)</td>
<td>116.347 45(5)</td>
<td>2.937</td>
<td>3.382</td>
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<tr>
<td>IL</td>
<td>COOK CNTY ILL CMNTY COLLEGE DIST NO 050 05.250000% 12/01/2025 Unif Univ Tax GO BDS CITY COLLEGE OF CHICAGO</td>
<td>5.250</td>
<td>12/01/2026</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>117.132 16(10)</td>
<td>117.132 16(10)</td>
<td>2.740</td>
<td>3.143</td>
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</tr>
<tr>
<td>IL</td>
<td>PINGREE GROVE ILL SPL SVC AREA NO 2 03.500000% 3/1/2025 Unif Univ Tax GO BDS CHICAGO AREA FUND</td>
<td>3.500</td>
<td>03/01/2026</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>106.578 16(10)</td>
<td>106.578 16(10)</td>
<td>2.649</td>
<td>2.724</td>
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<tr>
<td>IL</td>
<td>WILL CNTY ILL CMNTY UNITSCH DIST NO 00.00000% 11/01/2026-06-01-06-01-07-02</td>
<td>6.000</td>
<td>11/01/2026</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
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<td>--</td>
<td>76.166 75(25)</td>
<td>76.166 75(25)</td>
<td>2.646</td>
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<tr>
<td>IL</td>
<td>UNIVERSITY ILL UNIV REVS AUX FACS SYR 03.025000% 04/10/2017 Unif Univ Tax GO BDS ILL SIR 2011</td>
<td>3.250</td>
<td>04/01/2027</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
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<td>AA</td>
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<td>105.101 15(5)</td>
<td>105.101 15(5)</td>
<td>2.570</td>
<td>3.057</td>
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<tr>
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<td>WILCO AREA CAREER CTR ILL DEBT CRTF 02.375000% 12/01/2025 Unif Univ Tax GO BDS SIR 2014</td>
<td>2.375</td>
<td>12/01/2025</td>
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<td>--</td>
<td>AA</td>
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<td>--</td>
<td>--</td>
<td>98.058 14(5)</td>
<td>98.058 14(5)</td>
<td>2.535</td>
<td>2.535</td>
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<tr>
<td>IL</td>
<td>WILL CNTY ILL CMNTY UNITSCH DIST NO 00.00000% 11/01/2025-06-01-06-01-07-02</td>
<td>6.000</td>
<td>11/01/2025</td>
<td>AA</td>
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<td>AA</td>
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<td>--</td>
<td>--</td>
<td>76.203 56(10)</td>
<td>76.203 56(10)</td>
<td>2.591</td>
<td>2.501</td>
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<tr>
<td>CA</td>
<td>SALINAS CALIF UN HIGH SCH DIST GO BDS00.000000% 10/01/2026-06-01-06-01-06-02</td>
<td>6.000</td>
<td>10/01/2026</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
<td>AA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>71.624 5(5)</td>
<td>71.624 5(5)</td>
<td>2.475</td>
<td>2.475</td>
<td></td>
</tr>
</tbody>
</table>

For illustrative purposes only Source: Fidelity.com
## Live Pricing: Depth of Book

### Table

<table>
<thead>
<tr>
<th>Trade Description</th>
<th>Coupon</th>
<th>Maturity Date</th>
<th>Next Call Date</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Rating</th>
<th>Bid</th>
<th>Price Qty(min)</th>
<th>Ask</th>
<th>Price Qty(min)</th>
<th>Yield to Worst</th>
<th>Yield to Sink</th>
<th>Yield to Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOHNSON &amp; JOHNSON NOTE CALL MAKE WHOLE4.50000% 09/01/2040</td>
<td>4.500</td>
<td>09/01/2040</td>
<td>View</td>
<td>AAA</td>
<td>AAA</td>
<td>2.105</td>
<td>130.123</td>
<td>100(10)</td>
<td>1.959</td>
<td>--</td>
<td>1.959</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Depth of Book

- **Bids**
  - **Sell**
    - Price: 2.105
    - Quantity(min): 100(10)
    - Price: 130.123
  - **Sell**
    - Price: 2.137
    - Quantity(min): 470(9)
    - Price: 138.483
  - **Sell**
    - Price: 2.155
    - Quantity(min): 100(2)
    - Price: 138.119
  - **Sell**
    - Price: 2.169
    - Quantity(min): 250(25)
    - Price: 137.852
  - **Sell**
    - Price: 2.202
    - Quantity(min): 500(2)
    - Price: 137.187

- **Asks**
  - **Price**
    - Quantity(min): 142.091
    - Price: 100(10)
    - Yield: 1.959
    - Attributes: IE SFP
  - **Price**
    - Quantity(min): 142.574
    - Price: 45(9)
    - Yield: 1.936
    - Attributes: IE SFP
  - **Price**
    - Quantity(min): 142.600
    - Price: 12(12)
    - Yield: 1.934
    - Attributes: IE SFP
  - **Price**
    - Quantity(min): 142.985
    - Price: 500(2)
    - Yield: 1.916
    - Attributes: IE SFP

### Notes
- 4 dealers offering different quantities and prices
- 5 dealers bidding different quantities and prices
Live Depth of Book and Historical Recent Trades for Corporate Bonds

For illustrative purposes only Source: Fidelity.com

Best Offer: 105.725
Best Bid: 105.436
Yield Spread: 0.098

Recent Trades
Investor Bought earlier at 105.732
Investor Sold earlier at 105.553
Charting for Recent Trades

APPLE INC NOTE CALL MAKE WHOLE 2.40000%. 05/03/2023 ISIN #US037833AK68 SEDOL #B8HTMH6

Trade View Options

- Table
- Chart

Customer Buy/NMAB  Customer Sell/NMAS  Dealer to Dealer

AS OF 09:05:22 AM ET 07/17/2020

Trade results from: 1/28/2020 - 7/17/2020
Live Pricing: Request for Bid Quote

- Price discovery for securities without an “active” bid quote available on Fid.com
- Allows multiple dealers to competitively bid on the position

For illustrative purposes only Source: Fidelity.com
**Live Pricing: Bid Wanted Dashboard**

**Bond & CD Bid Quote Status**

<table>
<thead>
<tr>
<th>Select an Account</th>
<th>View by Account</th>
</tr>
</thead>
</table>

**Orders | Online Message Center**

For illustrative purposes only Source: Fidelity.com

<table>
<thead>
<tr>
<th>Request Date/Time</th>
<th>Issue Description</th>
<th>CUSIP</th>
<th>Quantity</th>
<th>Best Bid</th>
<th>Bid Valid Until</th>
<th>Bid Status</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/15/19 1:34 PM ET</td>
<td>CALIFORNIA ST GO VAR...</td>
<td>13063CW97</td>
<td>5</td>
<td>--</td>
<td>N/A</td>
<td>Response Expected: 03:04:49 PM ET</td>
<td>Place Order</td>
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<tr>
<td>07/15/19 2:18 PM ET</td>
<td>FIRST NATL BK LONG ...</td>
<td>329684AB8</td>
<td>1</td>
<td>98.012</td>
<td>04:15:00 PM ET</td>
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<td></td>
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<tr>
<td>07/15/19 1:36 PM ET</td>
<td>BMW BK NORTH AMER ...</td>
<td>05580ARZ9</td>
<td>7</td>
<td>99.532</td>
<td>02:06:00 PM ET</td>
<td>Expired</td>
<td>Request Bid</td>
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<tr>
<td>07/05/19 1:49 PM ET</td>
<td>SAN BENITO CITY ...</td>
<td>794532BC2</td>
<td>5</td>
<td>107.54</td>
<td>04:45:00 PM ET</td>
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<td>Request Bid</td>
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<td>06/25/19 1:57 PM ET</td>
<td>SAN BENITO CITY ...</td>
<td>794532BC2</td>
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<td>107.38</td>
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<td>06/18/19 10:07 AM ET</td>
<td>SAN BENITO CITY ...</td>
<td>794532BC2</td>
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<td>107.61</td>
<td>03:04:00 PM ET</td>
<td>Expired</td>
<td>Request Bid</td>
</tr>
</tbody>
</table>

- Easily see the Best Bid: 98.012
- Clearly identify the exact time a bid response will be returned
- Ability to Place Order directly from Dashboard
## Fixed Income, Bonds & CDs

**NEW Competitive bond pricing study. See how much you can save at Fidelity.**

Choose from 75,000 new issues and secondary market bonds and CDs, and over 130,000 total offerings quotations when including our depth of books. Only $1 per bond trade or manager deal for secondary bond trading $10 for US Treasuries online.

**Live Pricing:**

The Yield Table

For illustrative purposes only Source: Fidelity.com

---

### Quick and easy scan of 120 comparative yield data-points

Immediate, one-click, access to search results for that category

---

For illustrative purposes only Source: Fidelity.com
### Live Pricing: Using the Fidelity.Com Bond Yield Table

**View by:** Highest Yield | Median Yield

---

<table>
<thead>
<tr>
<th>Understanding This Table</th>
<th>3mo</th>
<th>1yr</th>
<th>2yr</th>
<th>3yr</th>
<th>5yr</th>
<th>10yr</th>
<th>20yr</th>
<th>30yr+</th>
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<tbody>
<tr>
<td><strong>CDs (New Issues)</strong></td>
<td>0.15%</td>
<td>0.15%</td>
<td>0.15%</td>
<td>0.25%</td>
<td>0.30%</td>
<td>0.65%</td>
<td>1.20%</td>
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<tr>
<td><strong>BONDS</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>U.S. Treasury</td>
<td>0.13%</td>
<td>0.13%</td>
<td>0.13%</td>
<td>0.13%</td>
<td>0.15%</td>
<td>0.18%</td>
<td>0.29%</td>
<td>0.62%</td>
</tr>
<tr>
<td>U.S. Treasury Zeros</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.07%</td>
<td>0.13%</td>
<td>0.21%</td>
<td>0.37%</td>
<td>0.78%</td>
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<tr>
<td>Agency/GSE</td>
<td>0.34%</td>
<td>0.20%</td>
<td>0.20%</td>
<td>0.19%</td>
<td>0.29%</td>
<td>0.36%</td>
<td>0.69%</td>
<td>1.57%</td>
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<tr>
<td>Corporate (Aaa/AAA)</td>
<td>0.30%</td>
<td>0.10%</td>
<td>--</td>
<td>0.17%</td>
<td>--</td>
<td>0.30%</td>
<td>0.60%</td>
<td>1.35%</td>
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<tr>
<td>Corporate (Aa/AA)</td>
<td>0.30%</td>
<td>0.29%</td>
<td>0.36%</td>
<td>0.32%</td>
<td>0.40%</td>
<td>0.58%</td>
<td>0.92%</td>
<td>1.83%</td>
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<tr>
<td>Corporate (A/A)</td>
<td>0.34%</td>
<td>0.40%</td>
<td>0.68%</td>
<td>0.75%</td>
<td>1.27%</td>
<td>1.24%</td>
<td>1.52%</td>
<td>2.60%</td>
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<tr>
<td>Corporate (Baa/BBB)</td>
<td>0.76%</td>
<td>0.65%</td>
<td>2.02%</td>
<td>2.29%</td>
<td>3.43%</td>
<td>5.75%</td>
<td>5.87%</td>
<td>7.57%</td>
</tr>
<tr>
<td>Municipal (Aaa/AAA)</td>
<td>--</td>
<td>0.50%</td>
<td>0.49%</td>
<td>0.60%</td>
<td>0.44%</td>
<td>0.75%</td>
<td>1.05%</td>
<td>1.70%</td>
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<tr>
<td>Municipal (Aa/AA)</td>
<td>0.38%</td>
<td>0.47%</td>
<td>0.43%</td>
<td>0.58%</td>
<td>0.88%</td>
<td>1.00%</td>
<td>1.35%</td>
<td>2.47%</td>
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<tr>
<td>Municipal (A/A)</td>
<td>0.53%</td>
<td>0.47%</td>
<td>0.90%</td>
<td>0.76%</td>
<td>1.40%</td>
<td>1.51%</td>
<td>2.20%</td>
<td>2.75%</td>
</tr>
<tr>
<td>Taxable Municipal*</td>
<td>0.37%</td>
<td>--</td>
<td>--</td>
<td>0.28%</td>
<td>0.80%</td>
<td>1.90%</td>
<td>2.30%</td>
<td>2.70%</td>
</tr>
</tbody>
</table>

*For illustrative purposes only. Source: Fidelity.com

---

**Click on a yield to see offerings**

**View by Highest or Median yields**

---

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Live Pricing: The Yield Curve

For illustrative purposes only. Source: Fidelity.com
Understanding Trading Costs

Transparency

Mark-up Fee Comparison

Impact
Cost Transparency

A
Fidelity Process: “Transparent Pricing”

1
OFFERINGS SEEN BY TRADERS

Inventory (and prices) from dealers

Inventory (and prices) from dealers

Inventory (and prices) from dealers

2
PRICES SEEN BY CUSTOMERS IN OFFERINGS

Disclosed Mark-up ($1/Bond)

1 Bond

B
Markup Broker Process: “Undisclosed Pricing”

3
PRICES SEEN BY CUSTOMERS IN TRADE TICKET

Inventory (and prices) from dealers

Undisclosed Mark-up ($?/Bond)

Undisclosed Mark-up ($?/Bond)

$? Bond
# Mark-up Fee Comparisons

For illustrative purposes only

Source: Fidelity.com

## Fidelity's $1 per bond Mark-up

Mark-up: (100.35 – 100.35)

## Another broker’s $7.54 per bond Mark-up

Mark-up: (101.314 – 100.56)
Confirms now display Mark-up/down

<table>
<thead>
<tr>
<th>REFERENCE NO.</th>
<th>TYPE</th>
<th>REG.REP.</th>
<th>TRADE DATE</th>
<th>SETTLEMENT DATE</th>
<th>CUSIP NO.</th>
<th>ORDER NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>06-06-18</td>
<td>06-06-18</td>
<td>89236DD4U</td>
<td></td>
</tr>
</tbody>
</table>

You Bought 100,000

TOYOTA MOTOR CREDIT CORP. MTN
WE HAVE ACTED AS PRINCIPAL
COUPON 1.950000% MATURITY DATE 04/17/2020
CURRENT YIELD 2.748%
YIELD TO MATURITY 2.748%
TO VIEW SECURITY DETAILS AND TRADE ACTIVITY, GO TO https://bondfacts.fime.org/89236DD4U
EXECUTION TIME 15:47:52

MARK-UP/DOWN IS THE DIFFERENCE (DOLLAR AND %) BETWEEN THE PREVAILING MARKET PRICE (PMP) AND TRADE PRICE. N/A REPRESENTS INSTANCES WHERE TRADE PRICE IS HIGHER THAN PMP.

You Sold 105,000

INDIANA FIN AUTH HOSP REV REF BDS INDIANA UNIVERSITY HEALTH INC 2014 A
WE HAVE ACTED AS PRINCIPAL
COUPON 5.00000% MATURITY DATE 12/01/2026
CALLABLE NEXT CALL 12/01/21 @ 100.000
CURRENT YIELD 4.373%
YIELD TO MATURITY 3.064%
YIELD TO CALL 2.579% TO 12/01/24 @ 100.000 REVENUE
SUBJECT TO EXTRAORDINARY CALL CONTINUOUSLY CALLABLE FROM 12/01/24 TO VIEW SECURITY DETAILS AND TRADE ACTIVITY, GO TO https://emma.mrb.org/cusip/45471AM0
EXECUTION TIME 02:40 PM
MARK-DOWN IS THE DIFFERENCE (DOLLAR AND %) BETWEEN THE PREVAILING MARKET PRICE (PMP) AND TRADE PRICE. N/A REPRESENTS INSTANCES WHERE TRADE PRICE IS HIGHER THAN PMP.

BOOK ENTRY ONLY
MOODY'S AA1 - STANDARD & POOR'S AA1- INTEREST PAID SEMI-ANNUALLY

Principal Amount $120,076.95
Interest $102.08
Settlement Amount $120,179.03
Don't get overcharged for bonds

Do you know how much your broker charges for bond trading? At Fidelity, our bond pricing is clear, transparent, and low. Explore our bonds, or learn more below.

Search for Bonds

Why pay more?

<table>
<thead>
<tr>
<th></th>
<th>Wells Fargo</th>
<th>Morgan Stanley</th>
<th>Merrill Lynch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Corporate bond</td>
<td>$20.16</td>
<td>$22.10</td>
<td>$9.15</td>
</tr>
<tr>
<td>1 Municipal bond</td>
<td>$10.96</td>
<td>$16.14</td>
<td>$13.81</td>
</tr>
<tr>
<td>Example trade of 22 bonds</td>
<td>$240-$440</td>
<td>$355-$485</td>
<td>$200-$300</td>
</tr>
</tbody>
</table>

Pricing:

Fidelity’s $1 Per Bond Transaction Costs Are Very Competitive

Online:

Fidelity Viewpoint: How much am I paying for my bonds?

The average price differentials per bond in the table are taken from a March 2020 study by Corporate Insight,* which was commissioned by Fidelity. This illustrates how you could save an average of $15 per bond by choosing Fidelity versus potentially spending more elsewhere.

Minimum markup or markdown of $19.95 applies if traded with a Fidelity representative. For U.S. Treasury purchases traded with a Fidelity representative, a flat charge of $19.95 per trade applies. A $250 maximum applies to all trades, reduced to a $50 maximum for bonds maturing in one year or less. Rates are for U.S. dollar-denominated bonds; additional fees and minimums apply for non-dollar bond trades. Other conditions may apply; see Fidelity.com/commissions for details. Please note that markups and markdowns may affect the total cost of the transaction and the total, or "effective," yield of your investment. The offering broker, which may be our affiliate, National Financial Services LLC, may separately mark up or mark down the price of the security and may realize a trading profit or loss on the transaction.

Markup - For secondary market bonds and CD purchases, the difference (dollar and %) between the Prevailing Market Price (PMP) and the trade price. Mark-up is calculated as: Mark-up / Total initial price x 100. The mark-up includes, but may not be limited to, Fidelity’s $1 per bond pricing. Details available on our fee schedule.
Where to start: Fidelity.com > Research > Fixed Income, Bonds & CDs

fixedincome.fidelity.com/ftgw/fi/filanding

For illustrative purposes only
Source: Fidelity.com
How Fidelity Can Help

Meet with a Fidelity investment professional

- Further understand your current bond holdings
- Explore how you may improve your portfolio with bonds
- See if you’re currently paying additional mark-ups on bond transactions
1. (from pages 33) Fidelity commissioned Corporate Insight to study bond pricing, available online, for self-directed retail investors from three brokers that offer corporate and municipal bonds for comparison to Fidelity’s standard online pricing. The study compared online bond prices for more than 27,000 municipal and corporate inventory matches from January 28 through March 2, 2020. It compared municipal and corporate inventories offered online in varying quantities. The study found that, on average, the three online bond brokers identified in the chart were asking $15.41 more per bond. Corporate Insight determined the average price differential by calculating the difference between the prices of matching corporate and municipal bond inventory at Fidelity, including Fidelity’s $1 per bond mark-up for online trades vs. the prices offered online for the same bonds from the three brokers in the table, then averaging the differences of the financial services firms. An order size of 22 bonds was selected to illustrate the hypothetical trade because this is the average for Fidelity’s retail brokerage account holders who purchased individual municipal or corporate bonds during 2019. The analysis included investment grade corporate and municipal bonds only, as the three brokers in the study do not offer non-investment grade bonds for purchase online.

Minimum markup or markdown of $19.95 applies if traded with a Fidelity representative. For U.S. Treasury purchases traded with a Fidelity representative, a flat charge of $19.95 per trade applies. A $250 maximum applies to all trades, reduced to a $50 maximum for bonds maturing in one year or less. Rates are for U.S. dollar-denominated bonds; additional fees and minimums apply for non-dollar bond trades. Other conditions may apply; see Fidelity.com/commissions for details. Please note that markups and markdowns may affect the total cost of the transaction and the total, or “effective,” yield of your investment. The offering broker, which may be our affiliate, National Financial Services LLC, may separately mark up or mark down the price of the security and may realize a trading profit or loss on the transaction.

References to individual securities are for illustrative purposes only, and should not be construed as investment advice.

In general, the bond market is volatile, and fixed income securities carry interest rate risk. (As interest rates rise, bond prices usually fall, and vice versa. This effect is usually more pronounced for longer-term securities). Fixed income securities also carry inflation risk, liquidity risk, call risk and credit and default risks for both issuers and counterparties. Any fixed income security sold or redeemed prior to maturity may be subject to loss.
Disclosures

Interest income earned from tax-exempt municipal securities generally is exempt from federal income tax, and may also be exempt from state and local income taxes if the investor is a resident in the state of issuance. A portion of the income received may be subject to federal and state income taxes, including the federal alternative minimum tax. In addition, investors may be subject to tax on amounts recognized in connection with the sale of municipal bonds, including capital gains and “market discount” taxed at ordinary income rates. “Market discount” arises when a bond is purchased on the secondary market for a price that is less than its stated redemption price by more than a statutory amount. Before making any investment, investors should review the official statement for the relevant offering for additional tax and other considerations.

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Past performance is no guarantee of future results.